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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/896,276	06/29/2001	Michael V. DiBiasio	112025-0478	7993

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EXAMINER	
EL CHANTI, HUSSEIN A	

ART UNIT	PAPER NUMBER
2157	

DATE MAILED: 09/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/896,276	DIBIASIO ET AL.	
	Examiner	Art Unit	
	Hussein A. El-chanti	2157	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 July 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23 and 32-47* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23 and 32-47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Amendment

1. This action is responsive to amendment received on July 24, 2006. Claims 32-47 were newly added. Claims 24-31 were canceled. Claims 1, 13, 14, 17 and 22 were amended. Claims 1-23 and 32-47 are pending examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6, 10-13, 16-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Yin, U.S. Patent No. 5,926,458.

As to claims 1, 13, 22, 28, 33, 40 and 47, Yin teaches an intermediate network device for use in a computer network having a plurality of entities configured to issue requests to reserve network resources for use by traffic flows, the reservation requests specifying one or more flow parameters, the intermediate network device comprising:

a traffic scheduler having one or more network resources for use in forwarding network traffic received at the device at different rates (see col. 5 lines 15-col. 6 lines 67, server determines rate requirement);

a classification engine configured to identify network messages belonging to respective traffic flows based upon predefined criteria (see col. 5 lines 15-col. 6 lines 67, packets are identified in a traffic flows according to a set of rules);

a resource reservation engine in communicating relationship with the traffic scheduler and the classification engine, the resource reservation engine including a flow analyzer that is configured to apply one or more predefined heuristics that are accessible by the flow analyzer to the one or more flow parameters specified in the reservation request to determine a type of traffic of the given traffic flow (see col. 5 lines 15-col. 6 lines 67, packets are analyzed to determine a flow priority), the flow analyzer selects a queue and/or a queue servicing algorithm for assignment to the traffic flow corresponding to the reservation request (see col. 5 lines 15-col. 6 lines 67, a queue is selected as a result of the determination).

As to claim 2, Yin teaches the intermediate network device of claim 1 wherein the classification engine is directed to identify network messages belonging to the traffic flow, and the traffic scheduler is directed to place network messages identified as belonging to the traffic flow in the selected queue (see col. 5 lines 15-col. 6 lines 67).

As to claims 3 and 16, Yin teaches the intermediate network device and method of claims 1 and 13 respectively wherein the selected queue is one of a priority queue (PQ) and a reserved queue, and the PQ is drained before any other queues (see col. 5 lines 15-col. 6 lines 67).

As to claims 4, 17 and 23, Yin teaches the intermediate network device and method of claims 3 and 14 respectively wherein a first set of heuristics is provided for determining whether the respective traffic flows carry real-time voice information, and a traffic flows that are determined to carry real-time voice information are assigned s to the PQ (see col. 5 lines 15-col. 6 lines 67).

As to claim 5, Yin teaches the intermediate network device of claim 4 wherein the flow parameters include one or more of an average data rate, a peak data rate and a token bucket rate (see col. 5 lines 15-col. 6 lines 67).

As to claims 6 and 20, Yin teaches the intermediate network device and method of claims 4 and 13 respectively wherein the resource reservation engine utilizes the Resource reSerVation Protocol (RSVP) specification standard, and 4 the flow parameters are located in a RSVP Reservation (Resv) message received s by the device (see col. 5 lines 10-15).

As to claims 7, 19 and 21, Yin teaches the intermediate network device and method of claims 6 and 13 wherein the flow parameters include one or more of a token bucket rate (r) value, a token bucket size (b) value and a peak data rate (p) value (see col. 5 lines 15-col. 6 lines 67).

As to claims 10 and 18, Yin teaches the intermediate network device of claims 4 and 17 respectively wherein a reserved queue is selected for each traffic flow that does not satisfy the first set of heuristics, and

a Weight Fair Queuing (WFQ) queue servicing algorithm is applied to the reserved queues (see col. 5 lines 15-col. 6 lines 67).

As to claim 11, Yin teaches the intermediate network device of claim 2 wherein the flow analyzer, in response to the application of the one or more sets of heuristics, associates a selected Per-Hop Behavior (PHB) with the traffic flow corresponding to the reservation request (see col. 5 lines 15-col. 6 lines 67).

As to claim 12, Yin teaches the intermediate network device of claim 1 wherein the resource reservation engine utilizes the Resource reSerVation Protocol (RSVP) specification standard, and

a the flow parameters are located in a RSVP Reservation (Resv) message received by the device (see col. 5 lines 15-col. 6 lines 67).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-6, 10-13, 16-23 and 32-47 are rejected under 35 U.S.C. 102(e) as being anticipated by Tang et al., U.S. Patent No. 6,690,647(referred to hereafter as Tang).

As to claims 1, 13, 22, 28, 33, 40 and 47, Tang teaches an intermediate network device for use in a computer network having a plurality of entities configured to issue requests to reserve network resources for use by traffic flows, the reservation requests specifTangg one or more flow parameters, the intermediate network device comprising:

a traffic scheduler having one or more network resources for use in forwarding network traffic received at the device at different rates (see col. 2 lines 45-67 and col. 4-6);

a classification engine configured to identify network messages belonging to respective traffic flows based upon predefined criteria (see col. 2 lines 45-67 and col. 4-6);

a resource reservation engine in communicating relationship with the traffic scheduler and the classification engine, the resource reservation engine including a flow analyzer that is configured to apply one or more predefined heuristics that are accessible by the flow analyzer to the one or more flow parameters specified in the reservation request to determine a type of traffic of the given traffic flow (see col. 2 lines 45-67 and col. 4-6), the flow analyzer selects a queue and/or a queue servicing algorithm for assignment to the traffic flow corresponding to the reservation request (see col. 2 lines 45-67 and col. 4-6, the traffic flow is determined according to a plurality of parameters as in col.4-6 and a respective bandwidth is allocated to the queue).

As to claim 2, Tang teaches the intermediate network device of claim 1 wherein the classification engine is directed to identify network messages belonging to the traffic flow, and the traffic scheduler is directed to place network messages identified as belonging to the traffic flow in the selected queue (see col. 2 lines 45-67 and col. 4-6).

As to claims 3 and 16, Tang teaches the intermediate network device and method of claims 1 and 13 respectively wherein the selected queue is one of a priority queue (PQ) and a reserved queue, and the PQ is drained before any other queues (see col. 2 lines 45-67 and col. 4-6).

As to claims 4, 17 and 23, Tang teaches the intermediate network device and method of claims 3 and 14 respectively wherein a first set of heuristics is provided for

determining whether the respective traffic flows carry real-time voice information, and a traffic flows that are determined to carry real-time voice information are assigned s to the PQ (see col. 2 lines 45-67 and col. 4-6).

As to claim 5, Tang teaches the intermediate network device of claim 4 wherein the flow parameters include one or more of an average data rate, a peak data rate and a token bucket rate (see col. 2 lines 45-67 and col. 4-6).

As to claims 6 and 20, Tang teaches the intermediate network device and method of claims 4 and 13 respectively wherein the resource reservation engine utilizes the Resource reSerVation Protocol (RSVP) specification standard, and 4 the flow parameters are located in a RSVP Reservation (Resv) message received s by the device (see col. 5 lines 10-15).

As to claims 7, 19 and 21, Tang teaches the intermediate network device and method of claims 6 and 13 wherein the flow parameters include one or more of a token bucket rate (r) value, a token bucket size (b) value and a peak data rate (p) value (see col. 2 lines 45-67 and col. 4-6).

As to claims 10 and 18, Tang teaches the intermediate network device of claims 4 and 17 respectively wherein a reserved queue is selected for each traffic flow that does not satisfy the first set of heuristics, and

a Weight Fair Queuing (WFQ) queue servicing algorithm is applied to the reserved queues (see col. 2 lines 45-57).

As to claim 11, Tang teaches the intermediate network device of claim 2 wherein the flow analyzer, in response to the application of the one or more sets of heuristics,

associates a selected Per-Hop Behavior (PHB) with the traffic flow corresponding to the reservation request (see col. 2 lines 45-67).

As to claim 12, Tang teaches the intermediate network device of claim 1 wherein the resource reservation engine utilizes the Resource reSerVation Protocol (RSVP) specification standard, and

a the flow parameters are located in a RSVP Reservation (Resv) message received by the device (see col. 2 lines 45-67 and col. 4-6).

As to claim 32, Tang teaches the intermediate network device of claim 23 wherein the flow parameters are selected from the group consisting of: a token bucket rate for the given traffic flow; a token bucket size for the given traffic flow; and peak data rate for the given traffic flow (see col. 2 lines 45-67 and col. 4-6).

As to claims 34 and 40, Tang teaches the method of claim 33 wherein the determined type of traffic is real-time voice traffic and the queue adapted for the determined type of traffic is a priority queue (PQ) that is serviced with preference over other queues (see col. 2 lines 45-67 and col. 4-6).

As to claims 35 and 42, Tang teaches the method of claim 33 wherein a first one of the one or more flow parameters is a token bucket rate and the step of comparing further comprises the step of comparing the token bucket rate of the given traffic flow with a programmed token bucket rate constant descriptive of a particular type of traffic (see col. 2 lines 45-67 and col. 4-6).

As to claims 36 and 43, Tang teaches the method of claim 33 wherein a first one of the one or more flow parameters is a token bucket size and the step of comparing

further comprises the step of comparing the token bucket size of the given traffic flow with a programmed token bucket size constant descriptive of a particular type of traffic (see col. 2 lines 45-67 and col. 4 lines 5-col. 6 lines 47).

As to claims 37 and 44, Tang teaches the method of claim 33 wherein a first one of the one or more flow parameters is a peak data rate and a second one of the one or more flow parameters is a token bucket rate and the step of comparing further comprises the step of comparing the ratio of the peak data rate to the token bucket rate with a programmed peak data rate to token bucket rate constant descriptive of a particular type of traffic (see col. 2 lines 45-67 and col. 4 lines 5-col. 6 lines 47).

As to claims 38 and 45, Tang teaches the method of claim 33 wherein the marking values are differentiated ser vices codepoint (DSCP) values.

As to claims 39 and 46, Tang teaches the method of claim 33 further comprising the step of associating a selected Per Hop Behavior (PHB) with the given traffic flow in response to the step of comparing (see col. 2 lines 45-67 and col. 4 lines 5-col. 6 lines 47).

Allowable Subject Matter

4. Claims 8, 9, 14 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

5. Applicant's arguments have been fully considered but are moot in view of the new grounds of rejection.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hussein A. El-chanti whose telephone number is (571)272-3999. The examiner can normally be reached on Mon-Fri 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571)272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hussein El-chanti

Sep. 21, 2006

ARIO/ETIENNE
SUPERVISORY PATENT EXAMINER